

SECTION 32 13 13

CONCRETE PAVING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work Specified in this Section: Furnish materials and perform labor required to execute this work as indicated on the drawings, as specified and as necessary to complete the Contract, including, but not limited to these major items:
  - 1. Coordinate the work of this section with other trades including off-site construction.
  - 2. Verify applicable elevations at the job site.
  - 3. Protect existing improvements designated to remain.
  - 4. Site concrete: Slabs, pads, walks, curbs, curbs and gutters, gutters, and swales as indicated.
  - 5. Concrete pavement.
  - 6. Staking and layout.
  - 7. Formwork.
  - 8. Reinforcing steel.
- B. Related Work Specified Elsewhere:
  - 1. All other concrete.
  - 2. Work within the public right-of-way.

1.02 REFERENCE STANDARDS

- A. General: Conform to the latest editions, unless otherwise indicated, of the following reference standard to the extent specified.
- B. Public Works Construction Specifications (indicated hereinafter as PWC Spec.): Standard Specifications for Public Works Construction, including all addenda thereto, except where noted otherwise in this section.
- C. American Society for Testing and Materials (ASTM):
  - 1. A82 - Specification for Steel Wire, Plain, for Concrete Reinforcement.
  - 2. A185 - Specification for Steel Welded Wire, Fabric, Plain, for Concrete Reinforcement.
  - 3. A615 - Specification for deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
  - 4. C150 - Specification for Portland Cement.
- D. Ordinances, Codes and Regulations: All work shall be installed in accordance with all of the requirements of all legally constituted authorities having jurisdiction, including all local ordinances, codes and the Construction Safety Orders and General Industry Safety Orders of the State Division of Occupational Safety and Health (Cal/OSHA), CCR, Title 8.

### 1.03 QUALITY ASSURANCE

- A. General: Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and methods needed for proper performance of the work in this section.
- B. Installer's Qualifications: A firm with at least two years of successful installation experience on projects with site concrete work similar to that required for the project.

### 1.04 SUBMITTALS

- A. Comply with pertinent provisions of Division 01.
- B. The Developer Design/Builder shall allow ample time for checking and processing and to allow the work to be accomplished in accordance with the accepted schedule, and shall assume all responsibility for delays incurred due to rejected items. No installation of the material concerned shall be made until written approval has been obtained from the County's Representative. Approval of materials and equipment shall in no way obviate compliance with the plans and specifications.
- C. Concrete Pavement Joints: A jointing plan shall be prepared by the Developer Design/Builder for review by the County's Representative before paving begins.

## PART 2 - PRODUCTS

### 2.01 MATERIALS

- A. Portland Cement Concrete: Conforming to PWC Spec. Subsection 201-1:
  - 1. Portland Cement: ASTM C150, Type II, low alkali, conforming to PWC Spec. Subsection 201-1.2.1.
  - 2. Aggregates: Conforming to PWC Spec. Subsection 201-1.2.2.
  - 3. Water: Clean, fresh and potable, conforming to PWC Spec. Subsection 201-1.2.3.
  - 4. Admixtures: Conforming to PWC Spec. Subsection 201-1.2.4.
  - 5. Fly Ash: Conforming to PWC Spec. Subsection 201-1.2.5.
  - 6. Proportioning: Conforming to PWC Spec. Subsection 201-1.3.
- B. Strength: Concrete class and maximum slump for the various types of construction shall conform to PWC Spec. Subsection 201-1.1.2, unless otherwise indicated.
- C. Reinforcing Steel (use only where called for):
  - 1. Bars: Conforming to ASTM A615, Grade 40 or 60 billet steel.
  - 2. Wire: Conforming to ASTM A82.
  - 3. Wire mesh: Conforming to ASTM A185, 6 x 6 - W1.4 x W1.4, unless otherwise indicated.
- D. Expansion Joint Filler and Sealant: Conforming to PWC Spec. Subsection 201-3.
- E. Forms: Wood or metal. The Developer Design/Builder shall be responsible for the adequacy of forms and form supports.
- F. Concrete Curing Compound: Conforming to PWC Spec. Subsection 201-4.

- G. Aggregate Base Course: Conforming to PWC Spec. Subsection 200-2, with gradation conforming to Subsection 200-2.4 for crushed miscellaneous base.
- H. Soil Sterilizer: A standard non-selective product that is non-toxic, non-reactive, non-explosive and non-flammable and is in accordance with regulatory requirements.

## PART 3 - EXECUTION

### 3.01 SUBGRADE PREPARATION

- A. General: Conforming to PWC Spec. Subsections 301-1.2 through 301-1.4, inclusive, performed under the supervision of the Geotechnical Engineer.
- B. Maintenance of subgrade: The subgrade shall be maintained in a smooth, compacted condition, in conformity with the required section and established grade until the concrete is placed.

### 3.02 CONCRETE SLABS, PADS, WALKS, CURBS, DRIVEWAYS, CURBS AND GUTTERS, GUTTERS, SWALES, ETC.

- A. Form Setting: Conforming to PWC Spec. Subsection 303-5.2.1.
- B. Placing Concrete: Conforming to PWC Spec. Subsection 303-5.3.
- C. Joints: Conforming to PWC Spec. Subsection 303-5.4. "Zip-strip" joint products and techniques shall not be used.
- D. Finishing: Conforming to PWC Spec. Subsection 303-5.5. Walk cross slopes shall be 2 percent unless otherwise indicated. Paving shall have a medium salt (medium broom) finish on all surfaces less than 6 percent and a slip resistant (heavy broom finish) on all surfaces greater than 6 percent. A float finish coat to be applied to curbs shall consist of Class B mortar.
- E. Curing and Protection:
  - 1. Curing: Conforming to PWC Spec. Subsection 303-5.6.
  - 2. Backfilling: After curing, debris shall be removed and the area adjoining the work shall be backfilled, graded, and compacted to conform to the surrounding area in accordance with lines and grades indicated.
  - 3. Protection: Completed work shall be protected from damage until accepted. The Developer Design/Builder shall remove damaged concrete and clean concrete discolored during construction. Work that is damaged shall be removed and reconstructed for the entire length between regularly scheduled joints at no expense to the County. Refinishing the damaged portion will not be acceptable. Removed damaged portions shall be disposed of as directed.
- F. Color Additive: Provide color additive at concrete driveway between the Hall of Justice and the Parking Structure. Color to be selected by Developer Design/Builder and approved by the County's Representative. Refer to Section 32 13 16.

### 3.03 CONCRETE PAVEMENT

- A. Soil Sterilization:
  - 1. After approval of subgrade and just prior to placing asphalt base course, apply and use soil sterilizer in accordance with the regulatory requirements and with the manufacturer's directions in dry or aqueous form for control of medium and heavier weed growth.
  - 2. If necessary, apply supplemental watering to fully dissolve all sterilizer and obtain two to three inches of penetration into the subgrade. Re-roll treated subgrade to specified compaction.

3. Do not apply sterilizer during rain or windy weather and prevent contamination of landscaping areas.
  4. Provide necessary protection to prevent injury to animal or adjacent plant life and property occasioned by application of soil sterilizer.
- B. Aggregate Base Course: Conforming to PWC Spec. Subsection 301-2, placed in one or more layers as required to obtain 95 percent relative compaction. Deliver to site as a uniform mixture. Construct to indicated compacted thickness.
- C. Forms and Headers: Conforming to PWC Spec. Subsection 302-6.2.
- D. Placing Concrete: Conforming to PWC Spec. Subsection 302-6.3.
- E. Finishing: Conforming to PWC Spec. Subsection 302-6.4.
- F. Joints:
1. General: Joints shall be as indicated and shall be laid out to aid construction and to minimize random cracking. Square panel patterns are preferable with a maximum panel dimensional ratio of 1½ to 1 permissible. Individual spacing may vary slightly to meet catch basin or manhole castings. Offsets at radius points shall be at least 18 inches wide and angles of less than 60 degrees shall be avoided.
  2. Longitudinal Joints: Longitudinal joint spacing shall not exceed 12.5 feet. The Developer Design/Builder shall have the option of the joint type used.
  3. Transverse Joints: Transverse joint spacing shall be 15 feet or less.
  4. Construction Joints: Construction joint locations shall be determined by the Developer Design/Builder's equipment and procedures.
  5. Contraction Joints: Contraction joints shall be continuous through curbs and have a depth of 1/4 of the pavement thickness.
  6. Expansion Joints: Expansion (isolation) joints shall be full depth and shall only be used to isolate fixed objects abutting or within the paved area.
- G. Curing: Conforming to PWC Spec. Subsection 302-6.6.

#### 3.04 FLOOD TEST

- A. Concrete gutters and concrete pavement shall be given a flood test in the presence of the County's Representative. Concrete work where water ponds and does not run off shall be removed by the Developer Design/Builder to the nearest score or joint line and replaced to provide proper drainage.

#### 3.05 OFF-SITE CONCRETE WORK

- A. Work within public right-of-way shall conform to the requirements of the City of Los Angeles.
- B. Coordinate on-site and off-site construction efforts.

#### 3.06 CLEANING

- A. Cleanliness of Site: During progress of work, keep premises reasonably free of debris and waste materials.
- B. Removal of Debris: Upon completion and before final acceptance of work, remove all debris, rubbish, left-over materials, waste test water, tools and equipment from site in accordance with regulatory requirements and in an environmentally responsible manner.

END OF SECTION